

ABSTRACT

The stent of this invention is a self-expanding stent created by a scaffolding lattice. The stent may be made from a nickel-titanium alloy. The lattice is formed from two different types of helices that proceed circumferentially in opposite directions along the longitudinal axis of the stent. The helices have no free ends. The first type of helix is formed by a series of undulations and the second type of helix is formed from a series of connection elements. The undulations may be in a zigzag or sinusoidal pattern. The connection elements connect the junction points lying on adjacent turns of the first type of helix. The junction points are formed by the ascending and descending arms of the undulations or zigzags. The ends of the stent may be formed by a closed circumferential element which is linked by connection elements to a transition zone. The transition zone is formed by a closed loop that connects directly to the first helix. The amplitude of the undulations or zigzags forming the transition zone increases from the closed loop to the point connecting the transition zone with the first type of helix. The closed circumferential element may be made from a radiopaque material. The scaffolding lattice design of the stent provides a stent having a high degree of flexibility as well as radial strength.